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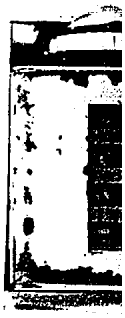

MEASURES TO IMPROVE SOVIET SHIP REPAIR PREPARATIONS AND WORK

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The success of water transport in the USSR is largely dependent on efficient repair work done in repair yards and shops. At present, this work is not being carried out successfully because of numerous factors which persist year after year.

The Ministry of Maritime and River Fleet has communicated with Glavtsentroflot (Main Administration of the Central Basins River Fleet) and Glavvostokflot (Main Administration of the Eastern Basins River Fleet) on this matter. These main administrations have failed to complete preparations for winter repair on the dates set forth in the ministry's order No 308. In fact, these two organizations were still working on 1952 repairs when the 1953 navigation season opened.

The same situation exists in steamship lines and industries of other main administrations. During August, reports of such conditions were received from the West Siberian, Volga-Don, White Sea-Lake Onega, Neman, East Siberian, Northern, and numerous other steamship lines.

As of mid-August, the Tulubevo Shops of the Northern River Steamship Line had not made out even one work order /remontnaya vedomost'; this term actually includes both the work order and the labor and material requirement lists which must be completed before a vessel can enter a yard for repair work./ The situation was the same in the Krasnyy Vodnik Shops (director, Pishchalkin) and the Kuzino Shipyard (director, Oshurkov) of this line. In all repair enterprises of the Northern River Steamship Line, only 7 of a necessary 37 orders for intermediate repairs and only 19 of a necessary 192 orders for current repairs had been made out as of 1 August.

Preparations for winter repairs are poor in the repair facilities of the White Sea-Lake Onega Steamship Line also. The situation was so bad there in 1952 that scarcely a single ship which was repaired at these yards was able to begin operations on its scheduled date at the opening of the 1953 navigation season. Intermediate repairs on numerous vessels had still not been completed at the Petrozavodsk Shipyard (director, Narin) at the end of July 1955. The White Sea-Lake Onega Steamship Line has not yet made up a specific plan for winter repair work to be done during the winter of 1953-1954. The nature and volume of repairs to be made have not been determined, nor have the proper equipping and scheduling of activities of shops and yards been done. The S/S Andrey Zhdanov and the S/S Vladivostok were held under repair at the Petrozavodsk Shipyard simply because new piston rings were not ready on schedule.

The volume of ship repairs on the Volga-Don Steamship Line will be almost 40 percent greater during the winter of 1953-1954 than for the same period of 1952-1953. This makes it all the more important that repair preparations be made. Numerous deficiencies were evident in these preparations as early as August, particularly in the shops at Kalach and Liski and at the Krasnyy Moryak Shipyard (director, Boyko).

The necessary conditions for an increase in productive work and a decrease in repair costs can only be brought about through the full and intelligent use of technical methods, mechanical work processes, and new techniques. Unfortunately these conditions do not always exist.

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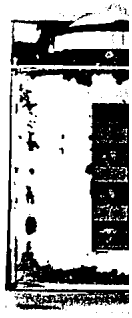

Sharikov, director of the Yard imeni III Internatsional (Volgotanker), does not make use of the powerful guillotine shears which are available for determining defects in welded seams. The Shipyard i. .ai Lenin of the same steamship line has a good reputation, but even here the management has not put its available spark machining equipment to use in processing spare parts.

The execution of paper work plays a large and important role in ship repair. Rapid and efficient ship repairs can only be made when they are preceded by accurate estimates and efficient ordering of materials and labor. For some reason the successful experiments in this field of the Karl Marks shipyard and the 10-ya Godovshchina Oktyabr'skoy Revolyutsii (10th Anniversary of October Revolution) shipyard in Astrakhan' have been ignored. These yards devised methods for completing documentary work and spare parts production before winter repair work began.

In the struggle to improve repair work, serious problems have been placed before the scientific organizations of the ministry during the past year. They have been asked to study the process of wear on the basic working parts of shipboard machinery, and on the basis of this study to establish average repair periods for vessels. This will in turn require that a norm be determined for mounting and operational party tolerances as well as friction wear norms. With these norms established, the production of interchangeable parts will be facilitated and repair work can be done according to schedule.

The conversion to industrial methods for ship repair has been hindered by the lack of specialization in assigning work to ship repair enterprises and by the manufacture of replacement parts for ship machinery without regard to their interchangeability. The Ministry of Maritime and River Fleet, in its order No 214 (August 1952), established invariable dimensions for the basic working parts of nine types of engines. This permits conversion to series production, since 2 or 3 repair dimensions have been established for the wearing surface of each interchangeable part. In place of the individual fitting of each part, it will be possible to determine the correct size replacement part by the use of measuring devices and to order it from stock using a standard fit and tolerance system. This, in turn, will result in an abrupt drop in the time required for adjustments of replacement parts which have been necessary in the past to make them fit properly. Such hand adjustments are a major bottleneck at present in the nation's ship repair establishments.

Capital repair work has been uniformly assigned to ship repair yards, but the same cannot be said with respect to current repairs. Machine and assembly shops have been assigned current repair work requiring a good deal of mechanical assembly and pipe fitting, but the remainder of the shops are still waiting for full work assignments.

Attention must be given to forming specialized shops for assembly-line unit repairs of high-speed engines of the 3D-6, Ch 13/18, Ganz-Yendreshek, and other types. Only two yards of the ministry have special shops for repairing 3D-6 engines, but at the present time there are over 2,500 3D-6 engines, over 400 2 Ch 13/18 engines, and over 100 Ganz-Yendreshek engines in operation aboard ships of the ministry. It is time, therefore, that the production administrations of the ministry and the main administrations set up unit engine repair shops along industrial lines.

Another requirement for a successful repair program is the pursuance of a building plan for docking facilities. Construction of dry docks and floating slips would make possible the scheduled docking of ships for repair work, and would extend the period of service for a river ship from the present 35-40 years to 50 years. The period of service before the first capital repairs

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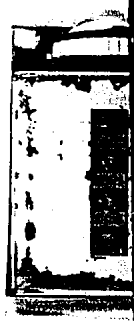

would be necessary could be extended to 20 years, with an additional 16 years of service before the second capital repairs would be necessary. Scores of petroleum barges of Volgotanker were put on the ways for repair last year and were thus preserved to the point that capital repairs can be postponed 4-8 years beyond the scheduled dates.

The task of lowering repair costs is also a basic one for the ministry's repair enterprises. In the first 6 months of 1953, enterprises of Glavmorrechprom (Main Administration of Maritime and River Shipbuilding) failed to pay the government more than 18 million rubles because they did not fulfill the profit plan. At present, all aspects of repair account for 30 percent of the entire cost of maintaining the fleet in operation.

There are various methods which can be employed to cut repair costs, particularly the cost of current repairs. As an important beginning, legislation must be enacted which will make it mandatory for ships' crews to carry out these repairs themselves. Work has been going on for 2 years on the TsPKB-4 (Central Planning and Design Bureau) plan which includes the transfer of current repairs to the ships' crews, but it is doubtful if this plan will ever be completed. And although present regulations provide for the completion of current repairs by ships' crews, the realization of this important measure is very slow in coming. Once accomplished, however, it would mean that shipyards would be freed from smaller repair work and could concentrate their efforts on intermediate and capital repairs.

The complete and prompt delivery of supplies, fuel, and raw materials to ship repair enterprises plays an important part in assuring completion of winter repair work on schedule. This task is the responsibility of Glavsnab (Main Supply Administration), which did not do a completely satisfactory job during the winter of 1952-1953.

The ministry's order No 308 on preparations for winter repairs during the winter of 1953-1954 outlines the work plan clearly and in great detail. This plan must be realized with no deviations or violations.

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